# Concordia University
# Department of Economics

**Econ 443/543** **Ivan Tchinkov**
**International Economics: Finance** **Fall 2017**

## Midterm Examination

**FIRST NAME:** _____ **LAST NAME:**_____

**STUDENT NUMBER:** _____

**I. True/False/Uncertain - Briefly explain. No credit without an explanation (8 marks each).**

1. A Balance of Payments surplus leads to a fall in the foreign exchange reserves.

   **False. Since the BoP is positive, then FX account must be negative to balance it out, i.e. there must be a net import of FX reserves, i.e. FX reserves increase. This assumes the exchange rate is constant.**

2. A country cannot run a trade balance deficit forever.

   **False. As long as it starts as a creditor, i.e. $B_0^* > 0$, then it can run trade deficits in all periods without violating the resource constraint.**

3. A devastating hurricane would cause current account deficit in a Caribbean nation.

   **True. If temporary, then it would lower $Q_1$ and leave $Q_2$ unchanged. This would worsen the current account balance, as consumption smoothing drops $C_1$by less than the drop in endowment. If permanent, then both period endowments fall and there would not be much effect on the current account.**

4. Donald Trump proposed tax cuts would worsen the budget and current account deficits in the US.

   **True/Uncertain. For given $G_1$, a tax cut increases the budget deficit. Then, as long as Ricardian equivalence (RE) fails, and investment is unchanged, the current account would worsen as well, i.e. there will be a Twin Deficits. If RE holds, then a tax cut cannot account for worsening of the current account, since private savings rise by the amount of the budget deficit, leaving national savings and the current account unchanged.**

5. Running budget deficits is dangerous for a country.

   **False/Uncertain. The paper we looked at argues that this is the case only if a panic occurs, usually with a debt to GDP ratio of above 90%. Otherwise, budget deficits have moderate negative effects of about 3 years worth of economic growth, as well as lowering investment and/or current account, the capital stock, productivity, the real wage, disposable income while increasing the return on capital, future taxes and dead-weight losses.**

**II. Problems - You have to show your work. No credit without an explanation (30 marks each).**

1. Suppose that, for a host of reasons, part of the world suddenly becomes more uncertain (think of wars, political instability, economic crises, etc.). Refer to this group of more uncertain countries as UC. Assume that the increase in uncertainty is manifested in a higher standard deviation of future output. Refer to the rest of the world as ROW.

   (a) Analyze the effect of this increase in uncertainty on consumption, savings and the current account in the UC. (8 marks)

   **Our analysis in Ch. 5 found that an increase in uncertainty has a positive effect on savings and the current account for precautionary reasons. Thus, consumption falls, savings and the current account rise in UC (a shift in the CA schedule).**

   (b) Analyze the effect of this increase in uncertainty on consumption, savings and the current account in the ROW. (8 marks)

   **Since $CA_1^{UC} + CA_1^{ROW} = 0$, then the savings and current account in the ROW must decrease, and thus ROW consumption in period 1 increases (a movement along the CA schedule).**

   (c) What happens to the world interest rate? (7 marks)

   **Since $CA_1^{UC}$shifts to right, then equilibrium world interest rates fall.**

   (d) Is there something the ROW can do to counteract this increase in uncertainty in UC? (7 marks)

   **Much like China vs. the US in our textbook example, since ROW is a large economy, they might strategically try to influence world interest rates via Tobin taxes in order to maximize their utility.**

2. Consider a two-period, two-country, endowment economy. Let one of the countries be the United States (US) and the other Europe (EU). Households in the United States and Europe have preferences described by the utility function

$$lnC_1 + lnC_2$$

   Let $Q_1^{US}$ and $Q_2^{US}$ denote the U.S. endowments of goods in periods 1 and 2, respectively. Similarly, let $Q_1^{EU}$ and $Q_2^{EU}$ denote the European endowments of goods in periods 1 and 2, respectively. Assume further that the endowments are non-storable, that the U.S. and Europe are of equal size, and that there is free capital mobility between the two economies. The United States and Europe start period 1 with a zero net foreign asset position.

   (a) Suppose $Q_1^{US} = Q_2^{US} = Q_1^{EU} = Q_2^{EU} = 10$. Calculate the equilibrium world interest rate and the current accounts of the US and Europe in period 1. (7 marks)

   **Utility max problem is identical in both countries and it leads to:**

   $CA_1^{US} = \frac{Q_1^{US}}{2} - \frac{Q_2^{US}}{2(1+r)}$

   $CA_1^{EU} = \frac{Q_1^{EU}}{2} - \frac{Q_2^{EU}}{2(1+r)}$

   $CA_1^{US} + CA_1^{EU} = 0$**, then** $r^* = 0$ **and at that interest rate both** $CA_1^{US} = CA_1^{EU} = 0$**.**

   (b) Suppose that a contraction originates in the United States. Specifically, assume that $Q_1^{US}$ drops from 10 to 8. All other endowments remain unchanged at 10. Calculate the equilibrium interest rate and the current accounts of the United States and Europe in period 1. Provide intuition. (8 marks)

   **Substituting this in the equations above we get** $r* = 11.11\%$ **and** $CA_1^{US} = -.5 < 0$ **and** $CA_1^{EU} = .5 > 0$**, i.e. US CA falls, EU CA rises.**

   (c) Consider now a second type of contraction in which the U.S. endowment falls from 10 to 8 in the first period and is expected to continue to fall to 6 in the second period ($Q_1^{US} = 8$ and $Q_2^{US} = 6$). The endowments in Europe remain unchanged at 10 each period. Like the one described in the previous item, this contraction originates in the United States. However, it differs from the one

described in the previous in that it is more protracted. Calculate again the equilibrium interest rate and the two current accounts in period 1. Point out differences in the effects of the two types of contraction and provide intuition. (8 marks)

**Substituting again the new US endowment in both periods in the market clearing condition from part a), we get $r* = -11.11\%$ and $CA_1^{US} = .625 > 0$ and $CA_1^{EU} = -.625 < 0$, i.e. US CA rises, EU CA falls. This is exactly the opposite of the temporary shock in part b) and is due to the fact that the shock is perceived to be permanent now.**

(d) At the beginning of the great contraction of 2008, interest rates fell sharply around the world. What does the model above say about people's expectations around 2008 regarding the future path of real activity? (7 marks)

**In part c), we got a prediction of falling interest rates when the shock was perceived to be permanent, i.e. expectations in 2008 were predicted to be for a protracted decrease in economic activity. The expectation in 2008 was for a deep and prolonged recession. The model's prediction about improvement in the US CA is also borne by the evidence.**